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ABSTRACT

This study analyzed trends from 1971 to 1989 in academic ranks and salaries of women faculty as compared to men faculty in Pennsylvania's higher education institutions. The data for the study were culled from public documents published yearly from 1971-72 to 1989-90 by the Division of Educational Statistics, the Pennsylvania Department of Education, covering academic ranks, salaries and tenure status of faculty in Pennsylvania. Analysis of the trends found that, by rank, representation of women professors had increased by 5.8 percent, most of which could be attributed to increases of women faculty at community colleges. Examination of salary trends showed that at the professor level, women were earning approximately 90 percent of men's salaries. With regard to trends in numbers of tenured faculty, limited data indicated that at state-owned institutions tenured positions for all faculty declined over the years. Overall, the study indicated that the status of academic women in terms of rank and compensation has not improved significantly over the past two decades. Equity was found to be greatest in the state-owned institutions where faculty have union representation. (Contains 20 references.) (JB)

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TRENDS IN THE RANKS AND SALARIES OF ACADEMIC WOMEN IN PENNSYLVANIA, 1971-1989

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ASSOCIATION FOR THE STUDY OF HIGHER EDUCATION

This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Marriott City Center, Minneapolis, Minnesota, October 29 - November 1, 1992. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

TRENDS IN THE RANKS AND SALARIES OF ACADEMIC WOMEN IN PENNSYLVANIA, 1971-1989

This study analyzes trends (1971-89) in academic ranks and salaries of women faculty as compared to men faculty, controlling for institutional category, in Pennsylvania's higher education institutions. The study provides new data showing that the status of academic women in terms of rank and compensation has not improved significantly as compared to their male counterparts over the past two decades. Equity is greatest in the state-owned institutions where faculty have union representation.

TRENDS IN THE RANKS AND SALARIES OF ACADEMIC WOMEN IN PENNSYLVANIA, 1971-1989

Introduction

The purpose of this study was to analyze the trends in the academic ranks and salaries of women faculty as compared to men faculty employed in Pennsylvania's colleges and universities. This study is oriented towards policy makers in the federal and state governments as well as in the higher education institutions who are responsible for enacting, implementing and enforcing equal employment opportunity and affirmative action programs to bring equality in terms of access, retention, and promotion for women faculty, and equity in terms of compensation.

Women constitute about 45.3 percent of the work force in the United States. In 1988, women comprised 44.4 percent of all managerial and professional occupations. In spite of equal pay legislation (Executive Order 11246 as amended by 11375, Title VII of the Civil Rights Act, the Equal Pay Act of 1963, and Title IX of the Education Amendments of 1972 (Higher Education Act)), women's earnings have remained about 55-65 percent of those of men. In 1970, women earned 58.9 percent of men's salary, and in 1987, the percentage increased to 65.4 percent (National Center for Education Statistics, 1989). Working in the same occupation is not a guarantee of pay equity for men and women. Equal pay, affirmative action, and equal employment opportunity were the social issues of the 1960s and early 1970s. In the late 1970s and into the 1980s there has been a shift to issues of equity rather than of equality. Though not exclusively related to sex-based discrimination,

comparable worth has emerged as a concept used primarily as a way of establishing equity, particularly in compensation for employed women (Makela, 1985).

Literature Review

Men have long dominated the professoriate. They have held a majority of the positions in institutions of higher education. Their dominance has been even greater at the upper level ranks. However, women have played a significant role as academicians since at least the mid 19th century. About one hundred years ago, in 1879-80, 36.4 percent of all U.S. faculty were women. Even though the percentage dropped to 19.6 percent at the end of the next decade, it climbed steadily until it reached 27.6 percent in 1939-40, less than half a percentage point below the 1985-86 level. After World War II, the percentage of women faculty fell to 24.5 percent, then bottomed out at 22.0 percent in 1959-60. The representation of women among college and university faculty is currently at its 20th century height. The percentage of women faculty increased from 22.3 percent in 1972-73 to 28.0 percent in 1985-86 (Taylor, 1989 and Fact Book on Higher Education, 1989-90).

There has been an increase in the number of women doctorates, thereby increasing the availability of women for faculty positions. The overall number of doctorates awarded to women climbed from 1,759 in 1965 to 11,244 in 1986, representing an increase from 10.8 percent to 35.4 percent of total doctorates awarded. The doctorates awarded to men peaked in 1972 and has declined steadily

since then, while the number awarded to women has continued to grow (Chamberlain, 1988).

Salary and rank are the two critical factors in the academic reward system. These depend on a faculty member's productivity in research and scholarship, in teaching, and in service activities, and are a function of the faculty member's level of education and years of experience (Astin and Bayer, 1979). It has been determined by various quantitative measures of productivity, a woman Ph.D. publishes as much as her male colleagues. She is involved in the activities of her professional organization, is sought out as a consultant, and is more likely to be awarded fellowships and accepted in honorary societies than her male counterparts (Simon, 1967).

Various studies have shown that inequity does exist in academia. Women are often denied access to faculty positions, denied tenure and promotion, and are paid less. Many studies have cited the tendency for women to be clustered at the lower academic ranks, among untenured faculty, and in the less prestigious institutions (Chamberlain, 1988; Turner, 1989; Finkelstein, 1984; Simeone, 1987; Rausch, 1989; Nickerson, 1990; Bereman, 1991; Smart, 1991; Taylor, 1989; Lomperis, 1990).

Even though the percentage of women faculty has increased over the past 30 years, equality has not been achieved. Differentials in salary continue to persist. The following patterns seem to exist:

- Women are clustered at the community colleges and other less prestigious four year colleges.
- Women are concentrated at the lower ranks of assistant professors and instructors, they remain under represented at the higher levels particularly at the major universities.
- Women are concentrated in the traditional women's fields of education, social work and nursing.
- Salary inequity is present at all levels, especially at the higher ranks of associate professor and full professor.
- Salary inequity also exists by discipline and type of institution. By discipline, the differentials are widest in the natural sciences as a group compared with the social sciences, arts, and humanities. In general, differentials are wider in private institutions than in public institutions.
- Women continue to lag behind in the attainment of tenure.

Research Design

This study investigated the changes in the academic ranks, salaries, and tenured status of women faculty in the Commonwealth of Pennsylvania's system of higher education covering the period from 1971-1989. It analyzed differences in representation and mean salaries by gender, rank (professor, associate professor, assistant professor, and instructor) and type of institution (state-owned, state-related, community colleges, private state-aided, and private colleges and universities) in Pennsylvania. The intent of this study was not to determine the success or failure of affirmative

action, but to analyze the trends in ranks and salaries of women faculty as compared to their male counterparts.

Higher Education in Pennsylvania

Pennsylvania has a total of 218 academic degree granting 2-year and 4-year institutions of post secondary education. Forty-three are public 4-year institutions, 21 are public 2-year institutions, 106 are private 4-year institutions, and 48 are private 2-year institutions. The state has 11,256 full-time faculty members at public institutions including 26.1 percent of women, and 9,328 at private institutions with 25.9 percent of women. About 72.2 percent of the total faculty is tenured at public institutions, and 59.2 percent at private institutions (1985-86). The average pay of full-time professors is $37,233 at public 4-year institutions, $32,393 at public 2-year institutions, $36,316 at private 4-year institutions, and $21,808 at private 2-year institutions (1987-88). The total number of students enrolled at all higher education institutions is 554,370 with 52.3 percent women (1987). The degrees awarded include 57,158 at bachelor's level, 13,501 at master's level and 1,802 at doctorate level (1986-87).

For reporting purposes, Pennsylvania's institutions of higher education are organized into the following groups: (1) State-owned universities. These 14 institutions comprise the Pennsylvania State System of Higher Education and were originally founded to train school teachers. (2) State-related universities. These institutions include the University of Pittsburgh, Lincoln

University, Temple University, and The Pennsylvania State University. These four universities receive substantial portions of their financing from the state, and in return, the state is accorded some influence over their operations, but their charters maintain private control (e.g., 2/3 of trustees are not state appointed). (3) Community colleges. These 2-year institutions receive 1/3 of their funding from the state, 1/3 from the county, and 1/3 from student tuition. (4) State-aided. Though private institutions, they receive state money for operating certain academic programs. (5) Private colleges and universities. Pennsylvania is also home to a number of prestigious private research institutions and liberal arts colleges. (Almanac of Higher Education, 1989-90).

Sources of Data

The data for this study were obtained from public documents published yearly from 1971-72 to 1989-90 by the Division of Educational Statistics, Pennsylvania Department of Education, Harrisburg, covering academic ranks, salaries and tenure status of women and men faculty in the Commonwealth of Pennsylvania's institutions of higher education. The data included the faculty numbers, mean salaries, and percentage tenured, by gender, type of institution, and academic rank for full-time instructional faculty employed on a contract of nine months. The documents did not contain data disaggregated by academic discipline, age, or race.

The primary advantages of using these data were: (1) the reporting form has remained basically unchanged since 1972-73,

therefore the data are comparable across time; (2) data were disaggregated by gender and type of institution; and (3) virtually all institutions of higher education in Pennsylvania provided the required information each year.

Methods

For each year from 1971-72 through 1989-90, the following data were extracted from the state reports:

- The numbers of men and women full-time instructional faculty on a nine month contract.
- The average salaries of men and women faculty.
- The numbers and average salaries were extracted by type of educational institution, including (1) state-owned universities, (2) state-related commonwealth universities, (3) community colleges, (4) private state-aided institutions, and (5) private colleges and universities.
- The numbers of faculty and average salaries were extracted by rank, including (1) professor, (2) associate professor, (3) assistant professor, and (4) instructor.
- The percent of full-time instructional faculty on nine month contracts who had tenure were also extracted for both men and women by rank and institutional category.

The data were entered on a personal computer in the format of a spread-sheet. For each year, the data on numbers, mean salary, and percentage tenured were entered by gender, rank, and institutional category. Once all the data were entered for each year, the numbers, average salaries, and percentage tenured for men

and women were summarized by type of educational institution and by rank.

For each year (1971-72 to 1989-90), the data were then analyzed as follows:

- The percentages of women and men faculty were calculated for all types of institutions by each rank (professor, associate professor, assistant professor and instructor).
- The percentages of women and men faculty were calculated for all ranks by each type of institution (state-owned and state-related universities, community colleges, private state-aided institutions and private colleges and universities).
- The percentages of women and men faculty were calculated by each rank for each type of institution.
- For each rank, women's average salary for all types of institutions was calculated as a percentage of men's average salary.
- For each type of institution, women's average salary for all ranks was calculated as a percentage of men's average salary.
- Women's mean salary was calculated as a percentage of men's mean salary by each rank for each type of institution.
- The percentage of women and men tenured faculty was listed for each year.

For each of the above analyses, the calculations in terms of percentages of women and men representation, salaries and tenure were presented for each year in the format of tables and linear

graphs to show the differences by gender and changes over time.

Results

Trends in the Representation of Women Faculty by Rank

On analyzing the trends in the representation of faculty by rank, it was found that overall, at all types of institutions, the representation of women professors has increased by 5.8 percent from 8.7 percent in 1971-72 to 14.5 percent in 1989-90. This increase can be attributed mainly to a 12.3 percent increase of women faculty in community colleges. A similar pattern was found for women associate professors. Overall, for all types of institutions, an increase of 10.3 percent was evident over the nineteen year period from 15.3 percent to 25.6 percent. An increase of 13.4 percent and 19.3 percent at the state-aided institutions and community colleges, respectively, contributed to the overall increase in the representation of women associate professors. At other types of institutions, women continued to represent a small percentage of the total faculty at both the professor and associate professor levels.

The representation of women assistant professors overall for all types of institutions, has shown an increase of 18.5 percent over the nineteen year period from 21.3 percent to 39.8 percent. This increase can be mainly attributed to the increase in representation at the private colleges and universities and at the community colleges. At the state-related universities, there was an 8.0 percent increase to 29.8 percent in 1989-90. Overall, for all types of institutions, women instructors continued to be well

represented in 1989-90 and held 52.6 percent of the faculty positions. Women instructors held more than 50 percent of the total instructor positions at each type of institution in 1989-90, except the state-related universities.

There has been an increase in the representation of women faculty from 7 to 10 percent at each type of institution, except state-related universities, where there has been no change in the representation of women. In 1989-90, women faculty represented 42 percent of the total faculty at the community colleges, the highest percentage at any type of institution.

Trends in the Mean Salaries of Women Faculty

In this study, the trends in the mean salaries of women faculty are presented as a percentage of men's mean salaries. The trends in the salaries of women faculty show that at the professor level, women are earning approximately 90 percent of men's salaries, ranging from close to 100 percent at the state-owned universities to approximately 88 percent at the state-related universities. Gender equity in salary of the associate and assistant professors has declined over the nineteen year period, with the decline occurring at each type of institution.

Women's salaries as a percentage of men's has stayed more or less constant over the years for all ranks at the state-owned institutions . The biggest drop was in 1989-90, a decrease of 1.9 percent from the previous year. There was a general decline in women's salary equity at the state-related universities, dropping from 95.7 percent in 1974-75 to 90.1 percent in 1989-90, a decrease

of 5.6 percent. At the state-aided institutions, with some ups and downs in the late seventies and early eighties, the general trend has been constant. Women's salary in 1974-75 was 89.6 percent of men's and in 1989-90, it was 89.3 percent. Women's salary for all ranks at the private colleges and universities declined gradually over the years with an unusual drop to below 80 percent in 1980-81. In 1974-75, it was 89.0 percent of men's and in 1989-90 it decreased to 87.7 percent, a drop of 1.3 percent. The salary of women faculty at the community colleges declined over the years, with an unusual drop to 86.3 percent of men's in 1980-81. Women's salary decreased from 98.6 percent of men's in 1974-75 to 91.6 percent in 1989-90, a drop of 7 percent.

Trends in the Tenured Positions for Women Faculty

Data for the percentage of full-time instructional faculty employed on a contract of nine months with tenure are available by rank, gender and institutional type only for the years 1977-78, 1981-82 and 1984-85 through 1989-90. Data for the year 1986-87 were not collected by the Pennsylvania Department of Education.

At the state-owned institutions, tenured positions for all faculty declined over the years. Both men and women held about the same percentage of tenured positions in 1977-78, but by 1989-90, there was a difference of 6.1 percent in favor of tenured men. At the state-related universities, the percentage of tenured men and women remained at par and consistent over the years. At the private state-aided institutions, the percentage dropped for both tenured men and women over the years, with a difference of 4.2

percent in favor of men in 1989-90. At the private colleges and universities, the percentage of tenured women dropped from 48.1 percent to 45.1 percent over the years and tenured men dropped from 53.2 percent to 47.7 percent over the same period. At the community colleges, tenured men decreased from 76.4 percent to 68.4 percent over the reporting period, whereas, tenured women increased from 63.6 percent to 64.3 percent over the same period. For all ranks, there was a decrease in the tenured positions for women faculty at the state-owned and state-aided institutions, state-related universities, and at the private colleges and universities. However, the percentage of tenured positions increased for women faculty at the community colleges.

Summary and Discussion

The findings of this study provide new evidence that supplement and extend recent studies, Bereman (1991), Chamberlain (1988), Lomperis (1990), Nickerson (1990), Rausch (1989), Simeone (1987), Smart (1991), Taylor (1989), Turner (1989). This study suggests that overall, the status of academic women in terms of appointment, tenure and compensation has not improved significantly as compared to their male counterparts. However, salaries approach gender equity in the state-owned universities which have a unionized faculty. In the community colleges sector, which also tends to be unionized, gender equity in salaries was not as great. The following are the conclusions of this study:

- Women faculty continue to be concentrated at the lower academic ranks (assistant professor and instructor) as well as

at the state-owned institutions, private colleges and universities, and the community colleges.

- There has been no change in the percentage of tenured positions for women professors, but there has been a decrease in the proportion of tenured positions for women associate professors. The percentage of tenured positions for women faculty at all ranks has decreased at the state-owned and state-aided institutions, state-related universities, and private colleges and universities.
- Salary inequity with respect to men persists for women faculty at all academic ranks and at all types of institutions, except at the state-owned universities.

In analyzing the trends, marked deviations from the general trends were detected for certain years in the data obtained from the Pennsylvania Department of Education, which is available to public. Specifically, such deviations appeared in the salary data for: (1) the year 1982-83 for professors at the state-aided institutions; (2) the year 1983-84 for professors at the private colleges and universities; (3) the year 1980-81 for associate professors and instructors at the private colleges and universities as well as assistant professors at all types of institutions except state-owned; and (4) the year 1988-89 for instructors at the community colleges. The numbers of professors, associate and assistant professors for both genders deviate substantially from the trend for the year 1982-83 at the private state-aided

institutions, as do the tenure data for instructors at the state-related universities for 1989-90.

However, these apparent inaccuracies in the data are not systematic. The data for this study were collected for a period of nineteen years, and a few random errors should not affect the overall results of this study. These deviations may reflect actual patterns or they may be the result of errors in data summarization or data entry. For example, the tenure data for instructors at the state-related institutions for 1989-90 was reported as 10.6 percent. It is apparent that the decimal point may have been placed incorrectly, with the likely correct percentage being 1.06 percent.

These deviations in the data reinforce the importance of studying data over a longer period of time in order to obtain meaningful results and to avoid mistaken conclusions based on random errors in the data. An example appears in the 1989-90 data source document published by the Department of Education in which salary data for the year 1989-90 were compared with the salary data of 1980-81. This comparison may not be meaningful because the salary data for various ranks reported for 1980-81 deviate considerably (i.e., are much lower) from the longer term trend.

Recommendations

Although equal employment opportunity has been the public policy of the Commonwealth of Pennsylvania in higher education since 1955, equal opportunity has not been realized in Pennsylvania. Since the passage of the 1972 equal employment

legislation, a gradual increase in the number of women faculty has been realized. However, the salary gap is still a matter of serious concern.

On the basis of trend data for a single state, this study suggests that, in order for women faculty to achieve equality in terms of recruitment, promotion and tenure, more concerted efforts will have to be made by institutions in all sectors to recruit and promote women and to bring about equity in terms of salary. State and federal agencies will also have to play a more active role in enforcing equal employment opportunity legislation and affirmative action programs for women faculty. Simply passing the legislation for equity is not enough, implementation and enforcement will have to be carried out more aggressively in order to achieve equity for women faculty. Because trend data show limited change, affirmative action officers might need to play a more important role in the hiring and promotion of women in conjunction with the department chairpersons. It may also be helpful for senior management at these institutions to make a stronger commitment to help women realize equality.

Since this study was limited to analyzing the trends of women faculty representation, their salaries as a percent of men's salaries, and the changes in tenured positions by institutional category, further studies can be carried out by collecting data on each faculty member. These studies should also take into consideration the years of experience in terms of time from

recruitment, qualifications, career accomplishments, and type of discipline.

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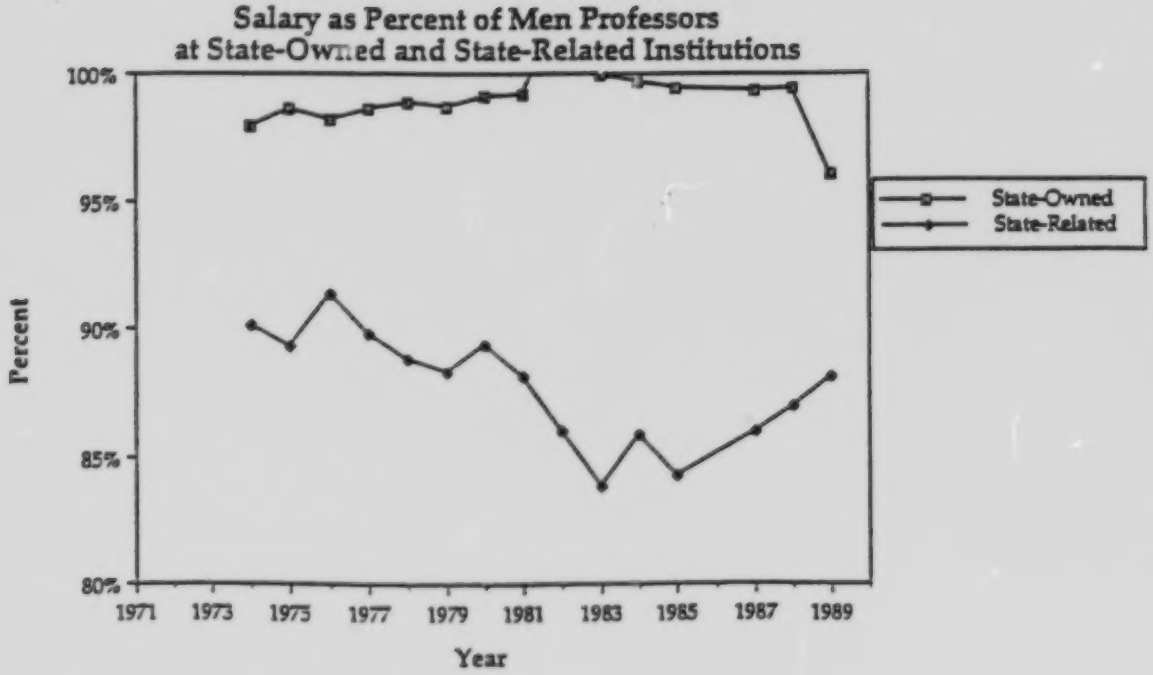

Figure 1

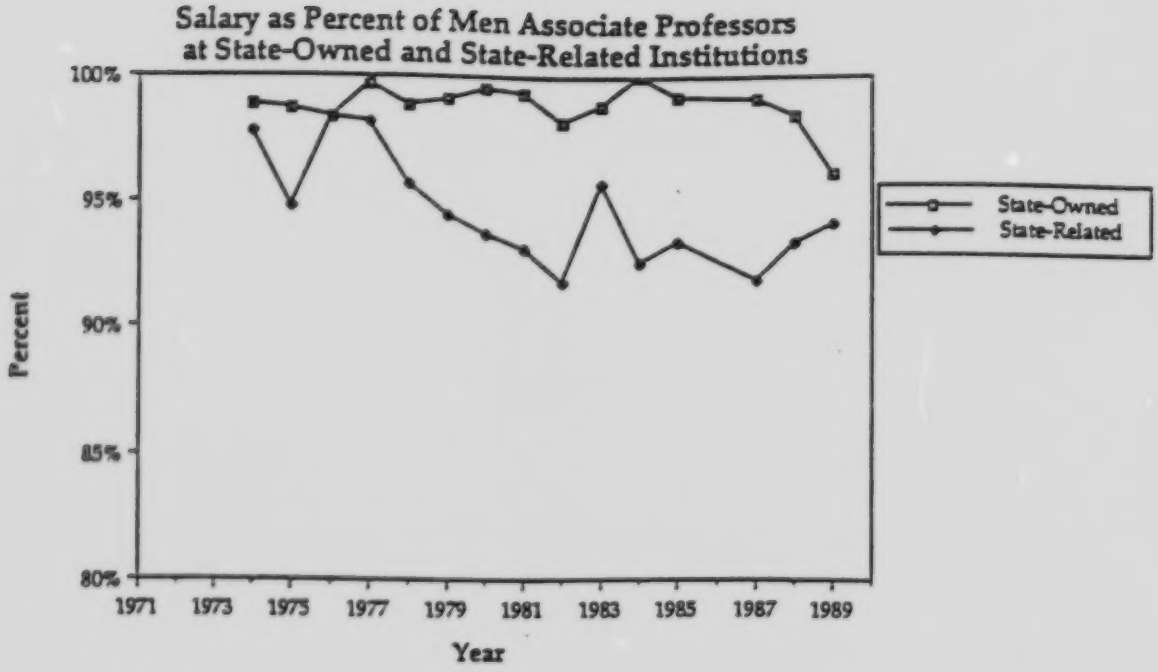

Figure 2

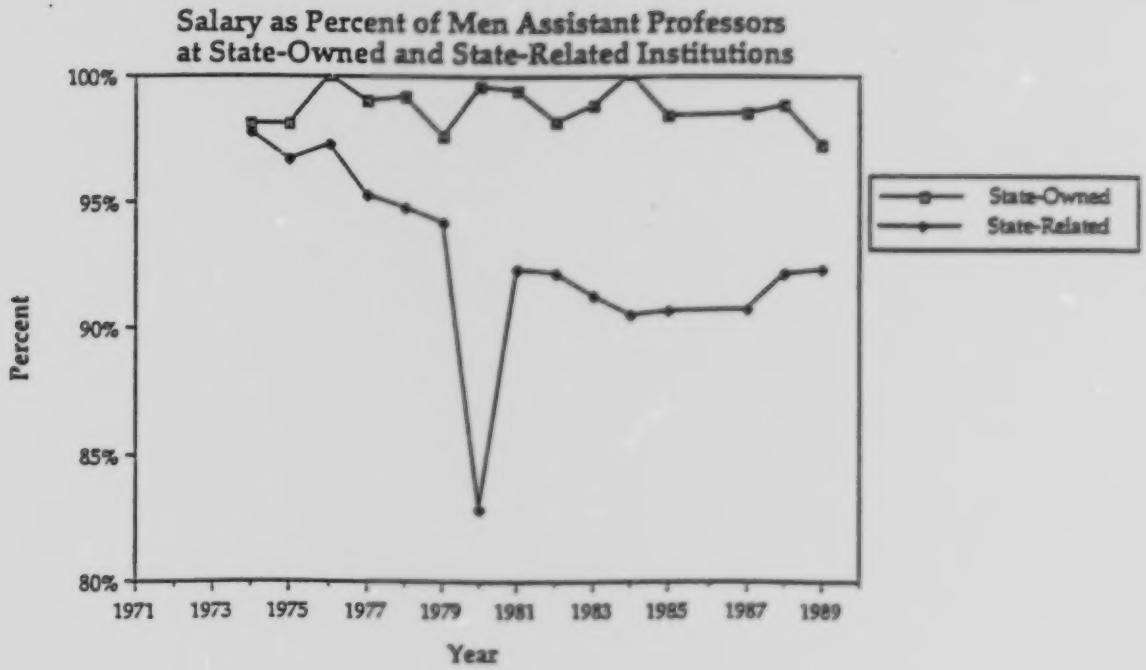
Salary as Percent of Men Assistant Professors
at State-Owned and State-Related Institutions
100%
95%
90%
85%
80%
Percent
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
Year
State-Owned
State-Related

Figure 3